Cybersecurity Domains, Research Areas, and Datasets

Domain	Research Area	Available Datasets
Network Security	Intrusion Detection Systems (IDS)	NSL-KDD, UNSW-NB15, CICIDS2017, CICIDS2018, TON_IoT
Network Security	Threat Intelligence	CICIDS2017, UNSW-NB15, TON_IoT
Network Security	DDoS Attack Detection	CICDDoS2019, CAIDA DDoS, UNSW-NB15
Application Security	Malware Detection and Analysis	EMBER, Malimg, VirusShare, Kaggle Malware Dataset, MalwareBazaar
Application Security	Adversarial Machine Learning	EMBER, Malimg, CICIDS2018
IoT Security	IoT Device Intrusion Detection	TON_IoT, IoTID20, Edge-IIoTset, Aposemat IoT-23
IoT Security	Smart Home Security	TON_IoT, Aposemat IoT-23
Cyber-Physical Systems (CPS) Security	Industrial Control System (ICS) Security	SWaT, WADI, BATADAL, MSD-IoT
Cyber-Physical Systems (CPS) Security	Digital Twin-Based Security	SWaT, WADI
Information Security & Privacy	Privacy-Preserving AI & Federated Learning	TON_IoT, UNSW-NB15, CICIDS2017
Information Security & Privacy	Blockchain Security	Ethereum, Bitcoin datasets
Cloud Security	Cloud Intrusion Detection	UNSW-NB15, CICIDS2017, CICIDS2018, TON_IoT
Advanced AI Security	Explainable AI for Cybersecurity (XAI)	SWaT, TON_IoT, CICIDS2017, UNSW-NB15